

## **Special Project Abstracts**

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**Special Project Abstracts**

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## **The EMS Authority's Special Grant Program**

The Health and Safety Code (Sec. 1797.200) permits a county to develop an EMS program. Each county developing an EMS program must designate a local EMS agency, which may be the county health department, an agency established and operated by the county, an entity with which the county contracts for the purposes of EMS administration, or a joint powers agency. Funding of local EMS agencies is generally the responsibility of the county establishing the EMS program. In California, the development of EMS systems has been varied as a result of the state's large size, geographical features, diverse population distribution, and differing availability at the local level of adequate finances and other resources. In an effort to promote the development and maintenance of EMS systems, some state and federal funding is available to assist local EMS agencies in maintaining, developing, improving, and evaluating local services.

The EMS Authority administers two local assistance funding programs. They are (1) the State General Fund and, (2) the Federal Preventive Health and Health Services (in California called Prevention 2000) Block Grant.

Prevention 2000 Block Grant funds (approximately \$1.2 million) are allocated to local EMS agencies annually for special projects to develop, implement, and improve local and state EMS capabilities.

### **Special Project Grant Selection Process**

The EMS Authority utilizes a competitive grant selection process. Proposals are sorted and reviewed by target areas to allow for an organized and equitable review process.

A review committee consisting of 8-10 reviewers drawn from the EMS community convenes in Sacramento. The committee consists of EMS administrators, medical directors, and subject experts as determined by the EMS Authority. Individuals do not serve on the committee if their local EMS agency has submitted an application for funding. There is one primary reviewer, one secondary reviewer and a recorder for each grant application. They review in depth and present the project to the whole committee. All reviewers receive copies of all of the proposals being reviewed by the committee.

The reviewers make ranked recommendations for funding of projects and provide written comments on each proposal to the EMS Authority.

The EMS Authority makes the final selection of projects to be funded. Funds are allocated according to the ranking of the proposals. Amounts allocated are related to the appropriateness of the budget, the potential benefit, and the availability of funds.

The EMS Authority provides a summary of the review committee's comments (positive and negative) for each proposal to help applicants improve future proposals for funding.

With respect to Special Project Grants, it is EMSA's goal to continue the funding stream to local EMS agencies. The specific use of these funds are to assist local EMS agencies to improve underdeveloped EMS system components.

It is also our goal to improve the transferability of projects, by examining the statewide application of proposed projects. We wish to reduce the reliance upon special projects to augment local EMS agency budgets.

The EMS Authority distributes the abstracts of projects annually and will continue a participatory review of grant submissions to meet these goals.

Section I contains the Abstract Reports from FY 99/00.

Section II contains the Abstract Reports from FY 00/01.

# SECTION I

## **SPECIAL PROJECT ABSTRACTS**

**1999/00 SFY GRANTS**

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## Disaster Response Planning and Preparedness

**Grantee:**

El Dorado County EMS Agency

**Project Number:** EMS-9045

**Project Period:** 10/01/99-07/31/01

**Project Amount:** \$40,000.00

**EMS Administrator:**

Gayle Erbe-Hamlin, Interim  
415 Placerville Drive, Suite J  
Placerville, CA 95667  
(530) 621-6500

### Introduction

On October 1, 1999, the State EMS Authority awarded Block Grant #EMS-9045 to the El Dorado County EMS Agency (EMS Agency). The purpose of the grant project was to develop a Medical/Health Disaster Plan that fully integrates with the countywide disaster response plan, and to assess and document Public Health Department and EMS Agency disaster response roles and responsibilities and available resources within and outside El Dorado County, required agreements, and how to maintain the disaster response plan.

### Project Description

The Public Health Department and EMS Agency personnel recognized the need to inventory EMS resources and disaster medical supplies, and to clarify public health roles in a disaster response situation. Development of a Medical/Health Disaster Plan was critical to define the role of public health as a participant in a disaster response effort. This plan would then serve as the basis for staff training and assignments.

### Tasks/Methodology

This project was initially implemented by EMS Agency and Public Health Department staff and was developed in six (6) distinct phases.

#### Phase 1 - Resource Assessment

EMS Agency staff interviewed key individuals from identified agencies and collected disaster response preparedness data and information. Interviews included the American Red Cross, local churches, El Dorado County acute care facilities, local fire and law enforcement agencies, local OES agency, and state and federal agencies. Key resource information was collected and documented from these and other sources.

#### Phase 2 - Mutual Aid Agreements

EMS Agency staff researched existing medical mutual aid agreements pertinent to disaster services. As a result, medical mutual and automatic aid agreements have been developed to present to local, adjacent ambulance service jurisdictions.

#### Phase 3 - Medically Fragile Population

A Medically Fragile Task Force was convened to address the evacuation and sheltering needs of the medically fragile population of El Dorado County. Task Force activities raised awareness of specific needs of this population during a disaster or large-scale emergency. The Task Force continues to meet to further address the needs of this population.

#### Phase 4 - 1999 Draft Public Health Disaster Plan

A Public Health Disaster Plan Committee was established to fully evaluate and analyze the

1999 draft disaster plan and begin final development of a Medical/Health Disaster Plan. The Committee conducted a full evaluation and analysis of the 1999 draft plan, and determined that professional assistance would be required to develop and complete a plan within the required time frame to address the functional needs of the EMS Agency and the Public Health Department during a disaster situation. A disaster consultant was hired to assist in developing the Medical/Health Disaster Plan. The Consultant met with Public Health, hospital, OES and EMS Agency personnel to gather information, and then completed an in-depth review of the draft plan.

#### Phase 5 - Medical/Health Disaster Plan Development

The Consultant developed the draft Plan, and presented it to all interested parties. Following this presentation, the Consultant completed a full edit of the Plan to incorporate the extensive edits, corrections and suggestions submitted by participating staff.

#### Phase 6 - Implementation and Education

The Plan was distributed to EMS Agency and Public Department personnel. Key personnel were trained and educated on the activation, staffing and operation of a DOC; participated in EOC training exercises; and now have a competent understanding of the responsibilities necessary to activate a Public Health DOC and participate in the EOC when required.

#### Outcome

The choice to utilize a consultant rather than staff to develop the Medical/Health Disaster Plan produced several results. The Consultant took a fresh look at all components of the plan and incorporated current disaster planning tools

from throughout California. However, the Plan was so extensive that staff were overwhelmed with the magnitude of the plan and the forms it contained. The Plan contains extensive duplication and position descriptions that are not necessarily required for a Public Health DOC in El Dorado County.

A committee continues to refine and further develop the Medical/Health Disaster Plan to reduce unnecessary duplication, revise forms to meet the specific needs of a Public Health DOC, and maintain the Plan to meet future disaster response planning needs. Public Health Department and EMS Agency personnel are fully prepared to activate a Public Health DOC based upon the Medical/Health Disaster Plan as it exists today.

#### Conclusion

The disaster response planning process has been absolutely invaluable in providing a clear understanding of the role of public health regarding the issues and responsibilities surrounding disaster response planning and preparedness. This understanding is crucial in order to be prepared to meet the needs of the citizens of El Dorado County during a disaster response situation. It was concluded that an absolute minimum of two years should be allowed to undertake a disaster planning process. Another valuable result of this process is the positive ongoing relationships developed with State, Regional and local OES representatives, and the continued interaction with these and other agencies for the purpose of furthering disaster response planning in El Dorado County. The result of this project is that Public Health Department and EMS Agency staff feel fully prepared to activate a Public Health DOC and participate in the EOC when required.

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## Patient Assessment and Destination Decision (PADD)

### Grantee:

Kern County EMS Agency

**Project Number:** EMS-9047

**Project Period:** 10/01/99 - 08/31/01

**Project Amount:** \$70,000.00

### EMS Administrator:

Russ Blind, Interim

1400 H Street

Bakersfield, CA 93301

(661) 868-5200

### Introduction

The focus of this project was to develop a specialized computer software application that will assist prehospital personnel in the complex decision process related to patient transport/non-transport criteria, patient managed care coverage type, alternative transport destination resources, hospital services capability and current hospital status. It was also proposed that the software application would also have the ability to store activity and outcome data related to patient non-transports, patient transport destinations, specific criteria utilized, and managed care coverage.

### Project Description

The proposed project was to develop computer software that drives the decision process and provides reasonable recommendations to prehospital personnel in the field based on criteria applicability and facility data. The software would also be used to generate data regarding criteria applicability and case outcome for continuous quality improvement review. The proposed Kern County EMS Department - EMS/MCO "Patient Assessment & Destination Decision" (PADD) Software Application would be developed for use in a medical dispatch center, a Paramedic Base Hospital, or for use in a mobile data terminal in the field depending on local system needs. The unique criteria and facility resource data would

be entered into the software by the local EMS system for consistency and uniformity. The criteria and facility resource data would have the ability to be updated and revised as changes are made to the local EMS system.

### Tasks/Methodology

The proposed project entailed software development by a computer software consultant and Kern County EMS Department staff. It was proposed that funds would be provided by the state to fund consultant costs. Kern County matching funds would be provided through staff time in professional advice to the consultant, data dictionary planning/development, software testing and implementation. The project would be concluded with a software package that would be available for use by other EMS systems in the State.

### Outcome

A qualified consultant source for the project could not be contracted and secured within the grant term. The PADD software product was not developed or implemented as proposed. A data dictionary and refined data diagram was developed as part of the project. An internet based application for real time hospital emergency department status communications was developed and implemented

as a facet of the project, though grant funds were not used.

## **Conclusion**

This project remains incomplete, but is refined for future work if funding is available. Although not funded by the state grant, a facet of the project involving development and implementation of the Kern County Hospital Emergency Department Status Website has been highly successful in improvement of real time hospital emergency department status communications, continuous tracking of specific emergency department overload level and accurate data related to emergency department overload.

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## CISM Training for Prehospital Personnel

**Grantee:**

Kern County EMS Agency

**Project Number:** EMS-9048

**Project Period:** 10/01/99-03/31/01

**Project Amount:** \$16,000.00

**EMS Administrator:**

Russ Blind, Interim

1400 H Street

Bakersfield, CA 93301

(661) 868-5200

### Introduction

Prehospital emergency medical services personnel are at the forefront of response to small and large scale critical incidents and are therefore vulnerable to the stresses related to such responses. Critical Incident Stress Management (CISM), with its associated crisis intervention techniques, has been proven effective in preventing or mitigating the development of post traumatic stress among emergency services professionals.

A group of Kern County's emergency response agencies formed the Kern Critical Incident Response Team (KCIRT) in 1997 with the goal of developing a system for use of CISM techniques for the benefit of Kern County's emergency services workers. The group represents law enforcement, fire services, mental health and human services agencies, and emergency medical services. All the local agencies involved have made the time and commitment to train and certify a number of their employees to Basic CISM level. The Kern County EMS Department has itself now provided for the training and certification of five of its current ten total employees.

Unique among KCIRT's membership, the EMS Department depends upon the cooperation of the owners and management of private ambulance providers in order to make

critical incident response services available to prehospital emergency medical personnel. Although many efforts were made to provide CISM training opportunities for these privately-employed emergency medical technicians, paramedics, emergency medical dispatchers, and others, only two employees of Kern County's eight private ambulance providers had completed Basic CISM training and certification as this project began. Reasons cited for low participation were costs of the program and scheduling demands.

### Project Description

Diverting ambulance company personnel from work assignments to attendance at a training course is a major commitment. The cost is particularly prohibitive to Kern County's smaller private companies; the commitment involved is considerable for companies of all sizes as additional personnel must be provided to cover for the staff absent for training purposes. To then ask that the private companies also manage the cash outlays to enroll multiple employees in a training course was a difficult "sell" for a public agency such as the EMS Department.

It was believed that grant funding would allow the EMS Department to mitigate costs which would otherwise be borne solely by Kern County's private EMS prehospital providers. By providing Basic CISM training and certification,

by the International Critical Incident Stress Foundation (ICISF), to prehospital emergency medical personnel at no charge, the EMS Department hoped to enhance the level of participation in CISM, and ensure that the prehospital emergency medical services component of Kern County's critical incident response system be a viable component.

### **Tasks/Methodology**

The EMS Department planned to present two 2-day ICISF-approved Basic CISM courses during the funding period. Course slots were to be offered to the County's eight private ambulance providers. The prehospital providers' commitment was to encourage their chosen employees' attendance at the training courses, with course costs provided by the EMS Department via grant funding.

The EMS Department in fact presented three Basic CISM courses, and was able to expand the bank of attendees to personnel from other KCIRT member agencies as well as to a number of hospital and other emergency, medical and public safety workers. And, when ICISF agreed to co-sponsor, with KCIRT, a 4-day conference in Bakersfield in January 2001, the EMS Department was able to provide opportunities for advanced CISM training.

### **Outcome**

The EMS Department presented three 2-day Basic CISM courses in Bakersfield in 2000: June 5 & 6, June 29 & 30, and October 11 & 12. A total of 74 emergency response personnel completed the 2-day courses. Eighteen of those attending were prehospital emergency medical services workers from Kern County's private

providers. Another 47 attendees were employed by KCIRT member agencies.

The Department sponsored six students for advanced training at the 4-day ICISF-KCIRT conference in Bakersfield on January 17 through 20, 2001.

Because the CISM trainers were available at minimal cost, and because the EMS Department was able to secure the use of County and fire service training facilities at no cost, the project was completed far under budget. Unfortunately, the limited availability of EMS Department staff made it unfeasible to present any additional course sessions which might have been possible given budget savings. Requested budget revisions and time extensions did allow the Department to sponsor limited advanced CISM training.

### **Conclusion**

While the attendance level of the project's target population—prehospital emergency medical services personnel—was not as high as hoped, CISM is now well known to virtually all area providers, and those providers can avail themselves of future training opportunities for their employees as desired. KCIRT and its member agencies will present future Basic CISM courses for nominal attendance fees, and KCIRT and ICISF plan another conference in Bakersfield in October 2002.

A significant number of KCIRT member agency personnel were trained, and the CISM concept was spread to other emergency personnel (e.g. hospital staff) whose agencies could stand to benefit from future courses.

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## Prehospital Infant Assessment

### Grantee:

Los Angeles County EMS Agency

**Project Number:** EMS-9049

**Project Period:** 10/01/99-09/30/01

**Project Amount:** \$99,563.00

### EMS Administrator:

Virginia Hastings

5555 Ferguson Drive, Suite 220

Commerce, CA 90022

(323) 890-7500

### Introduction

Little evidence exists regarding the key indicators to use in the out-of-hospital assessment by paramedics of children 12 months of age and younger. Data that does exist for the assessment of infants by physicians in the hospital setting indicates that basic physical assessment measures are often unreliable in identification of those infants with serious medical problems.

### Project Description

The objective of this project was to determine if reliable indicators of serious illness and injuries could be identified for the out-of-hospital infant population for which the Emergency Medical Services (9-1-1) system has been activated. Reliable indicators identified from the study will be incorporated in the educational programs for out-of-hospital personnel.

### Tasks/Methodology

This project was a retrospective, outcome study of an urban population of children 12 months and younger for whom 9-1-1 was called. Data was collected from EMS and hospital records using pre-study determined data points and a double entry system into a standard

database. Data collection was based on the assessments made by licensed paramedics. A focus group was used prior to the study to determine those outcomes that would be considered serious and require immediate intervention of out-of-hospital personnel. Of particular interest were indicators that could be used to determine the severity of illness or injury. Data collected as potential indicators included heart rate, respiratory rate, work of breathing, skin circulation signs, impression of seriousness of chief complaint, and overall appearance of infant (ranked on an ordinal scale of 1-4). Positive and negative predictive values were used to analyze outcome data and data was statistically compared between non-critical and critical groups using the Student T Test for continuous data and Wilcoxon Rank Sum Test for ordinal data.

### Outcome

804 infants were entered into the study. Paramedic concern for the seriousness of the chief complaint given by the caregiver and the overall impression of the physical appearance of the infant by the paramedic differentiated the two groups with statistical significance (ordinal data,  $p = 0.01$ ). These two measured parameters were the only ones that showed good positive predictive value and differentiation between the non-critical and critical infant groups. Otherwise,

the work of breathing, respiratory rate, circulatory (skin) signs, and heart rate were not useful in differentiating the seriously ill from the non-critical infant.

## **Conclusion**

Our data showed that the “intuitive” assessment based on seriousness of chief complaint and appearance were as good or better than quantitatively measurable indicators for determination of the seriousness of illness or injury when an urban population of children 12 months and under are assessed by paramedics responding to a 9-1-1 call for the infant.

# **SECTION II**

## **SPECIAL PROJECT ABSTRACTS**

### **2000/2001 SFY GRANTS**

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## Emergency Medical Services for Children (EMSC)

**Grantee:**

Coastal Valleys EMS Agency  
**Project Number:** EMS-0050  
**Project Period:** 07/01/00-11/30/01  
**Project Amount:** \$74,636.00

**EMS Administrator:**

Bruce Lee  
3273 Airway Drive, Suite E  
Santa Rosa, CA 95403  
(707) 565-6501

### Introduction

In late 1997 the Agency was approached by a local ER physician who was interested in the EMS-C program. He had practiced in the Los Angeles area prior to moving to Northern California and was surprised that our area did not have an EMS-C program or plan. While the ambulance providers were essentially equipped to treat pediatric patients and treatment protocols were in place, the facility side of the EMS-C equation was an unknown. The physician was both insistent and encouraging and asked the EMS Agency Administrator to submit a grant to the EMS Authority for EMS-C project funding. This was done but the grant application was not accepted due to a number of factors. The proposal was deemed to be too vague by the review committee as far as objectives, goals and general intent. Additionally, the Agency had not submitted an EMS Plan for several years and the Authority was prioritizing all projects on that basis.

The Agency submitted an EMS Plan in 1999 to the Authority. During the 99-00 FY, the Agency submitted a new EMS-C project proposal. The ER physician was still keeping the embers warm, so to speak, and the Agency had finally finished its System Redesign Project. During this interim period, Napa county had joined with Sonoma and Mendocino counties to form the Coastal Valleys EMS Region, so now

the project and its potential impact would be better fit, since all three counties would benefit.

### Project Description

The project set out to evaluate the current pediatric treatment capabilities of the region's providers and first responders, both in terms of equipment availability, treatment protocols and training needs. The project also wanted to establish an advisory committee of pediatric care focused individuals from both within and outside of the mainstream EMS system. The project also wanted to begin assessment of the various facilities in the region in order to gauge the compatibility or disparity of EMS-C hospital guidelines. The project also wanted to bring an outside pediatric subject matter expert in to act as a consultant to the Agency and project. The objectives were to establish an EMS-C project team, an EMS-C Advisory Committee, assess provider and first responder equipment, training and protocol needs, hire a pediatric subject matter expert and begin an initial assessment of facility pediatric capabilities.

### Tasks/Methodology

An inaugural "town hall" meeting was held to kick off the start of the project. First Responder agencies, ambulance providers, facility medical and administrative staff as well as

pediatricians and affiliated EMS system were invited to the meeting. Volunteers for the EMS-C Advisory Committee were successfully recruited. A pediatric subject matter expert was hired as a project consultant. Field personnel and facility surveys were created with the help of the Advisory Committee and distributed, returned, reviewed and tabulated. Equipment surveys were created and distributed to first responders and providers. A cooperative partnership was established with the local Junior College District to facilitate the presentation of Pediatric Education for Prehospital Professionals (PEPP) classes.

## **Outcome**

The project's products and/or results were the establishment of an internal Agency structure and organization for EMS-C project and program management. Nine PEPP class presentations at no cost to the Region's medics, EMTs and interested nurses were provided. Basic pediatric treatment kits were purchased and put together by project team members for 60 first responder agencies (bag valve respirators, masks, airways, blood pressure cuffs and obstetrical (birth kits). Forty "Pedi-Mate" restraint devices were purchased and distributed to the region's ambulances. An EMS-C Advisory Committee was established along with commensurate Prehospital-Training and Emergency Department-Critical Care subcommittees. An Agency web-site was established, making all project meeting minutes, updates and general progress reports available to Committee members as well as town hall attendees. An extensive e-mail list was established as well, which contributed to negligible communication expenses.

The benefits to the Agency were an increased knowledge of the Region's pediatric

treatment capabilities. Identified shortcomings and/or needs were addressed in a tangible fashion. A very productive partnership with the junior college district was instituted. Greater goodwill between the pediatric community and the Agency was fostered. The EMS-C Advisory Committee has proven to be an excellent group of dedicated, caring, apolitical advisors.

## **Conclusion**

The net impact on the EMS system thus far is an improved pediatric treatment capability. We are empowering our field providers with the tools and knowledge to do a better job in caring for our pediatric patients. As far as recommendations go - we would encourage the use of the EMS-C Implementation Guide, maybe even mandate it as opposed to using grant funding for turnkey project management/consultation. We will most likely avoid an RFI/RFP process for recruiting consultant services and only sole source in the future. Having an EMS-C Advisory Committee is essential. Utilizing an inaugural "town hall" meeting is very effective for starting an EMS-C project. Utilizing a web site and e-mail distribution is or will become essential, especially for the mix of professionals involved in the Advisory Committee. Using a "carrot & stick" approach for first responder and providers' surveys is an effective technique (tell us what you don't have so we can buy it for you). Establishing a partnership with a college district to provide training courses (PALs or PEPP etc.) could/should be a required avenue of pursuit of future projects. Setting aside a portion/percentage of the project grant for equipment and/or training is highly recommended. Providers and responders are equipment and training fixated. They're not real big on plans and reports. We personally feel that moving the completion of an EMS-C Plan into the second

year makes sense. The first year should be spent on the system assessment and partial implementation of identified needs and then second year spent on remaining implementation needs and documenting same. Having a dedicated EMSA EMS-C Coordinator was very helpful and we hope the position remains fully funded. The EMS-C Coordinators Forum is also very valuable and provides network contacts, information and general insight into overall project machinations.

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## Emergency Medical Services for Children (EMSC)

### Grantee:

Contra Costa County EMS Agency

**Project Number:** EMS-0059

**Project Period:** 10/01/00-03/31/02

**Project Amount:** \$70,000.00

### EMS Administrator:

Art Lathrop

1340 Arnold Drive, Suite 126

Martinez, CA 94553

(925) 646-4690

### Introduction

In early 1999, as part of its EMS system planning process, the Contra Costa EMS Agency identified integrated emergency and critical care services for children within the county as a priority. The California EMSC Model provided the ideal framework for development and implementation of a system that could provide these essential services. To this end, the county EMS agency pursued and was granted two year funding to develop and implement an EMS for Children Program.

### Project Description

The underlying goal of the Contra Costa EMSC Project was to design an EMSC system that would provide easy accessibility and availability to all children in the County in need of emergency and critical care services. Major objectives of the Project included:

- Development of an efficient and cost effective management structure for EMSC;
- provisions of high quality care to include prehospital treatment and transport guidelines, emergency department and specialty care standards; facilitation of interfacility consultation and transfer; establishment of specialized personnel training programs;

- identification of pediatric specialty services such as critical care, trauma, and rehabilitation;
- provisions of public education on illness and injury prevention; data collection and evaluation; and
- establishment of a CQI process.

### Tasks/Methodology/Outcome

The following are noteworthy accomplishments of the Project during its second year:

- Establishment of an on-going organizational and administrative structure, within the EMS Agency, responsible for the implementation, monitoring, and evaluation of the EMSC system.
- Development and adoption of an EMSC Plan that will be integrated into the Contra Costa EMS System Plan.
- Dissemination of training and care giving equipment for both prehospital providers and emergency departments within Contra Costa County.
- Revision or development of pediatric equipment and treatment guidelines and

- protocols for prehospital and emergency department care and treatment.
- PEPP Training of over 95% of ALS personnel.
- Funding and coordination of ENPC Provider and Instructor training for over 100 ED nurses.
- Implementation of ED Guidelines at all eight receiving facilities through a consultation process. Self-assessment and consultation review tools were developed to assist with the process.
- Development and distribution of Consultation and Transfer Guidelines to all receiving facilities.
- Recognition of Children's Hospital, Oakland as a Pediatric Critical Care Center based on Alameda County EMS District's PCCC designation process.
- Determined compliance of the county's designated General Trauma Center, John Muir Medical Center with the California Trauma Regulations concerning pediatric capabilities from the county's.
- Identification of two CCS approved pediatric rehabilitation centers that serve Contra Costa County.
- Distribution, to all county receiving facilities, multi-lingual brochures and posters concerning the new California Child Passenger Safety (Booster Seat) Law and Child Abandonment (Safe Haven) Law.
- Purchased child restraint devices for ALS contract ambulances.

- Maintenance of EMSC Program representation and participation on Contra Costa County's Childhood Injury Prevention Coalition and Child Death Review Team.
- Developed Injury Prevention Fact Sheets to be inserted in patient billing by transport ambulance providers.

## Conclusion

Over the course of the two-year EMSC Project, special care was taken to develop an EMSC Program that would meet the unique needs of Contra Costa County's pediatric population. Opportunities for collaboration between private and county agencies were built into the Project to enhance and reinforce services. To this end, the Contra Costa EMSC system was designed to ensure accessibility and availability of services to all children in need of emergency and critical care. In the future, close monitoring and evaluation of the EMSC system will need to occur to determine the true success of the Project.

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## Medical/Health Services Disaster Plan

**Grantee:**

Imperial County EMS Agency

**Project Number:** EMS-0060

**Project Period:** 10/01/00-09/30/01

**Project Amount:** \$20,000.00

**EMS Administrator:**

John Pritting

935 Broadway

El Centro, CA 92243

(760) 482-4468

### Introduction

The overall goal of this two-year project was to develop a coordinated, integrated, and comprehensive emergency response plan for the Imperial County Operational Area Medical/Health Branch. The project addressed the response for all health disciplines in Imperial County to include public health, environmental health, behavioral health, and the emergency medical services.

### Project Description

The first year of this project entailed the development of a written plan and a Medical/Health Branch Departmental Operations Center (DOC). A task force was created consisting of representatives from each of the health disciplines and the local Office of Emergency Services to develop the plan and DOC.

During the second year of the project, the draft plan was tested and evaluated. This involved the development of a training program that was used to train personnel in their respective roles and responsibilities in accordance with the plan and included training in SEMS/ICS. The project task force served as an exercise design team and developed and coordinated both a tabletop and a functional exercise.

### Tasks/Methodology

The second year project began with the development of a training program in accordance with the disaster plan to include training objectives, lesson plans, learning activities and an evaluation tool. Training was then scheduled and conducted for key personnel selected by each department director (i.e., Public Health, Environmental Health, Behavioral Health, EMS).

A tabletop exercise was conducted as part of the November 9<sup>th</sup>, 2000 Statewide Disaster Exercise. The task force reviewed suggested revisions and appropriate changes were made to the training program and draft plan.

The next step was to train appropriate personnel from all medical/health disciplines and prepare them for a functional disaster exercise. Several training sessions were conducted for public health employees, public safety and prehospital care personnel, and hospital and other healthcare provider agencies.

The exercise design team was again convened to develop a countywide, functional exercise for the Medical/Health Branch. The theme for the exercise was bioterrorism. This was an international disaster exercise in which

representatives from local, State and Federal agencies were joined by representatives from public safety and healthcare agencies in Mexicali to participate in the exercise. Preparations for the exercise involved the development of an exercise plan (EXPLAN) complete with objectives, Master Sequence of Events List (MSEL's), evaluation tools, and Control Staff Instructions (COSIN). After the exercise, a post exercise critique was conducted and an After Action Report was written and distributed.

## **Outcome**

The following products were developed during this project:

- Imperial County Medical/Health Branch Disaster Plan - copies of the plan were distributed to key Medical/Health Branch personnel and to key locations to include the Operational Area EOC and Medical/Health DOC to be available for use in the event of a major disaster.
- Disaster/MCI training program - will be used to conduct annual disaster preparedness training for medical and health personnel.
- Disaster Exercise Design (EXPLAN & COSIN) - templates were created for the EXPLAN and COSIN to be used for developing future exercises.
- Medical/Health Branch Departmental Operations Center - the DOC will be activated to serve as the central location from which personnel will assist the Operational Area EOC to coordinate the medical and health response to a major disaster.

## **Conclusion**

The disaster plan was successfully tested and evaluated. After the functional exercise, a post-exercise critique was conducted and the plan, training program and Medical/Health DOC were determined to be highly effective tools in preparing and assisting personnel in managing the medical and health response to the immediate and long-term health threats resulting from a large-scale disaster. The plan may serve as a model for other rural areas that must make the most efficient use of limited medical and health resources.

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## Evaluation of Air Vs. Ground Transport/Pediatric Outcome

**Grantee:**

Los Angeles County EMS Agency

**Project Number:** EMS-0061

**Project Period:** 10/01/00-09/30/01

**Project Amount:** \$69,983.00

**EMS Administrator:**

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### Introduction

There have been very few studies evaluating the integration of Emergency Medical Services for Children (EMS-C) into Emergency Medical Services (EMS) systems and how this affects patient outcome. Because modern EMS systems are complex and treat patients with a wide variety of illness severity and type, it is difficult to determine which components of the EMS system positively impact patient outcome. Yet, because of limited resources and personnel, it is essential that those components and treatments that improve outcome be identified, so that overall effectiveness of the EMS system can be maximized.

Traditionally, the previous studies utilizing retrospective archival data sources to examine the effects of trauma centers, transport methods and other components of EMS systems on patient outcome have frequently utilized methods that are subject to substantial bias. This bias occurs because in a non-prospective and non-randomized study design, the patients given one treatment usually have different characteristics than those treated with a different treatment. A simple comparison of the outcomes of patients given the two treatments may show a difference, but it is unclear if the different treatments have different effectiveness, or if the two groups of patients had different prognosis prior to the EMS intervention. Because of this limitation, the

reliability of results of previously designed studies have, at time, been drawn into question. Furthermore it is extremely expensive, time consuming and often impossible to design randomized, prospective studies to answer these types of questions. The best way to reduce this bias, so that the effect of the EMS interventions can be measured, is to accurately match case and control patients. This study will utilize a new statistical methodology (described below) to attempt to get around this difficulty. To test this new methodology a case study of pediatric prehospital helicopter transportation will be utilized.

The specific aims of this ongoing project are to:

1. Develop a new method for evaluating the effect of EMS components or prehospital treatments on outcome, based on archival data, which explicitly adjusts for differences in illness severity to reduce bias in a heterogeneous group of patients;
2. To determine the effect air versus ground prehospital transportation has on the outcome of critically ill or injured children, using this new method; and
3. To develop evidence-based triage criteria for the utilization of air transportation of ill or injured pediatric patients.

## **Project Description**

This project will utilize retrospective data from the Los Angeles County EMS Agency's TEMIS database and Trauma Registry, as well as collected ED and ICU data from the 9 Los Angeles County Pediatric Critical Care Centers (PCCC) to examine the outcomes of children transferred to PCCCs via ground versus air transport. These data will be analyzed using a relatively new recursive partitioning technique known as Classification and Regression Tree Analysis (CART) to stratify the diverse group of patients into low to high risk morbidity and mortality groups. These groups will then be matched to evaluate which patients might benefit from air transport to a PCCC.

The specific aims of this project are to: (1) Develop and test this new statistical method for evaluating the effect of EMS system components or prehospital treatments on outcome, based on archival data, which explicitly adjusts for differences in illness severity to reduce bias in a heterogeneous group of patients with the case study of pediatric prehospital helicopter transportation; (2) To determine the effect air versus ground prehospital transportation has on the outcome of critically ill or injured children; and (3) To develop evidence based triage criteria for the utilization of air transportation of ill or injured pediatric patients.

## **Tasks/Methodology**

An infrastructure for the project was developed between the Harbor-UCLA Research and Education Institute and the County of Los Angeles Department of Health Services Emergency Medical Services Agency to administer the grant.

An Expert Advisory Committee was

developed to oversee the development and guidance of the project. This committee consists of the principal and co-principal investigators, a research assistant, a data collector, a secretary, physicians from the Pediatric Emergency Medicine community, EMS administrative and support staff, Los Angeles County and City Fire Departments personnel, Los Angeles County Sheriff's Department personnel, 9 pediatric critical care nurses, a statistical consultant and a lay consultant. The specific personnel are listed in the quarterly reports. Institutional Review Board approval and Medical Records approval was obtained for data collection from the 9 Los Angeles County PCCCs.

Prehospital and follow-up data were collected on ill and injured children transported to these centers from January 1, 1997 until December 31, 1998. This data encompasses approximately 6,000 ground and 600 air transported patients. This data includes archival data maintained in the Los Angeles County EMS Agency's TEMIS database, Los Angeles County and City Fire Departments and Los Angeles County Sheriff's Department helicopter transport records and specific medical record data from the patient visits to the PCCCs.

The data collection phase is now complete and the specialized data analysis is currently being undertaken. This is described in detail in the initial grant proposals but entails using Classification and Regressions Tree Analysis to risk stratify the patients into several outcome risk groups. A decision tree will then be developed to determine which patient groups benefit from air transport and evaluate for which sub-populations of illness severity groups show improved survival from air transport. This is expected to be complete in the next couple of weeks with a formal report to immediately follow.

## **Outcomes**

As stated above, this study is still ongoing. The data collection phase of the project is complete (it took much longer than initially anticipated) and the data analysis phase is currently ongoing and expected to be finished very soon with a complete report of the results and conclusions of the project to immediately follow. Once this is complete the results of this study will be compiled and submitted to the Advisory Committee, Los Angeles County EMS Agency and submitted for publication in the peer-reviewed literature.

## **Conclusion**

The conclusion of this project will be complete in the next few weeks and will be submitted to the Advisory Committee, Los Angeles County EMS Agency and submitted for publication in the peer-reviewed literature at that time.

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## Medical/Health Disaster Plan Development

**Grantee:**

Merced County EMS Agency

**Project Number:** EMS-0051

**Project Period:** 07/01/00-06/30/01

**Project Amount:** \$36,808.00

**EMS Administrator:**

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### Introduction

Disaster planning is a critical component of both EMS and Public Health activities, and allows the opportunity to review and confirm resources for managing medical disasters; identify the most likely hazards and the most effective strategies for managing the patient volumes anticipated, relative to the type of disaster, e.g. hazardous materials release versus earthquake. It is, however, often difficult to get system participants excited about going through the lengthy and tedious aspects of the planning process, particularly in an area that has been fortunate enough to avoid the type of disasters that typically result in mass casualties.

In an effort to reduce the burden of work during the planning stage, the EMS Authority authorized a two year project, allowing us to spend the first year of the project determining resources, planning Field Treatment Sites, exploring the establishment of disaster caches, etc. The second year of the project focused on the plan development and training activities associated with the plan's implementation. This report reflects the accomplishments of year two, and those activities that remain to be completed.

### Project Description

This project is for the development of a new Medical/Health Disaster Plan for the County

of Merced, which will serve as an adjunct to the County Disaster Plan, more clearly defining the individual roles and responsibilities of the health care system during a declared disaster. The project was divided into two, one year phases. This first year of the project was aimed at laying the groundwork for the plan development. The primary objectives for year two of the project were:

1. To enhance the Steering Committee with urgent care - alternate treatment site representatives.
2. To identify location, physical layout and organizational structural for the Departmental Operations Center (DOC).
3. To draft the medical/health disaster plan (MHDP).
4. To complete any necessary memorandums of understanding (MOU) regarding field treatment sites (FTS).
5. To conduct table top and field exercises to test and finalize draft plan.
6. To contract for training in both ICS and HazMat for field and Task Force personnel.
7. To conduct training for Health Department personnel on operational aspects of Plan.

## **Tasks/Methodology**

A disaster plan steering committee was established to assist the agency with the completion of the proposed objectives. Agency staff coordinated the activities with the affected organizations, and provided feedback to the Steering Committee on a bi-monthly basis. Urgent care centers and large clinic operations were interviewed and meetings conducted to determine their optimal role during a declared medical/health disaster.

The Imperial County M/H Disaster Plan was used as a template for this planning process, as it provided a good framework for a concise, useable document. Our intent from the outset was to create a user-friendly plan that allowed for easy access to reference material, forms, job action sheets, etc.

Three training sessions were conducted using both in class didactic format and interactive tabletop scenarios for the participants. This training was conducted by a local fire chief with trainer certification in ICS, hazmat and weapons of mass destruction.

## **Outcome**

There were three important outcomes of this development process: 1) we have a MH Disaster Plan in place from which we can conduct exercises and continue to refine as experience dictates; 2) we have conducted training with the field personnel and substantially increased their awareness and comfort level in dealing with disasters involving hazardous materials, weapons of mass destruction, etc.; and 3) we have greatly improved communication between the Health Department, our system stakeholders and between program areas within

the Health Department regarding disaster preparedness and roles and responsibilities.

Additionally, we have increased the awareness of the need to plan, exercise and critique our operations to continue to improve our ability to respond to disasters. This area has not seen a large scale medical disaster and it is easy to become complacent. With the closure of Castle Air Force Base in 1995, we no longer conduct routine drills, and this development process has re-kindled the interest in resuming such exercises.

## **Conclusion**

Disaster planning requires a cadre of dedicated individuals to act as the catalyst for plan development and, realistically, do the majority of the work involved. In an area of the state that has thankfully not experienced major disasters with mass casualties, it is difficult to stimulate excitement about doing disaster planning, and often difficult to convince participants of the need for making arrangements for the use and management of outside resources, particularly human resources.

All of this notwithstanding, this grant has stimulated interest and participation in the planning, exercise and critical review of our level of preparedness, and should serve us well in our on-going effort to organize this system to respond to disasters, in whatever form they may take.

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## Emergency Medical Services for Children (EMSC)

**Grantee:**

Merced County EMS Agency  
**Project Number:** EMS-0062  
**Project Period:** 10/01/00-12/31/01  
**Project Amount:** \$67,766.00

**EMS Administrator:**

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### Introduction

Emergency Medical Services for Children (EMSC) is a critical component to an EMS System. Children suffer from a unique spectrum of diseases and injuries, and have important anatomic, physiological and developmental differences than do adults. All aspects of an EMS System must be prepared to recognize and care for pediatric emergencies; EMS providers, parents, teachers and even children need to be educated on how to avoid and prepare for emergencies.

In an effort to reduce the incidence of children entering into the EMS System, the Merced County EMS Agency has teamed up with many dedicated Pediatric and Health Care professionals to develop an EMSC Plan for our community. The California EMS Authority has funded this project and encourages the continuum of care to encompass illness and prevention activities, prehospital care, acute hospital care (including emergency and pediatric in-patient services), pediatric trauma care, pediatric critical care and rehabilitation, and interfacility transport practices.

### Project Description

This is the second year of the project, for the development and implementation of an

EMSC Plan, which will outline high quality emergency and critical care services to all infants, children and adolescents within the County of Merced. The project was divided into two, one-year phases. The first year of the project was aimed at laying the groundwork for the plan development. The second year objectives were focused on plan development and implementation, and included:

- To contract with a consultant with substantial experience in EMSC project implementation.
- To continue the bi-monthly meetings of the EMSC Steering Committee.
- To secure necessary funding for implementation of the agreed-upon high impact strategies and findings from needs assessment.
- To finalize the revised pediatric protocols and implement the provider training on same.
- To implement / continue the Pediatric Education for Prehospital Personnel training (first responders, ambulance personnel).
- To conduct and/or facilitate hospital staff training as indicated from the needs assessment.
- To implement pediatric critical care interfacility transfer guidelines.

- To coordinate with the hospitals and prehospital providers for the purchase of critical pediatric equipment.
- To prioritize the prevention strategies & identify the high impact projects for funding.

## **Tasks/Methodology**

An EMSC Steering Committee was established in year one of the project to assist the EMS Agency with the completion of the proposed objectives. The Steering Committee and its focus groups remained the key participants in the completion of the plan components, and assisted the Agency with coordination of the hospital and prehospital areas. The Merced Kiwanis and Key Club collaborated with the project with fund-raising activities, and to date have raised more than \$1500.00 for the purchase of hospital equipment. They were also successful in securing matching funds from the hospital's foundations.

## **Outcome**

Development and implementation of many of the individual objectives were quite successful. Both ENPC and PEPP training were conducted, and a Pediatric Conference was conducted in June, 2001. Each of the guidelines, treatment protocols and system standards were reviewed and adopted by the system stakeholders for incorporation into their internal standards and procedures. While no specific pediatric designations have occurred to date, we are confident that the plan and the standards contained therein will become the template upon which each of the hospitals and agencies base their operations.

During the middle of year two of the project, the project coordinator was diagnosed with a cerebral angioma, and required surgery for removal. While other staff attempted to fill in the gaps during his absence, there were inevitable delays to some of the objectives.

## **Conclusion**

Many key players from the system stakeholders made this project a success. Each contributed essential attributes to the EMSC Plan development, and each learned what strengths they bring to the table, and those areas in need of improvement. While all facilities and providers have done a terrific job at initial stabilization and caring for the sickest children, all participants agree that much more can be done to standardize the level of pediatric emergency and critical care services delivered within our EMS System. The implementation of the EMSC Plan for this system is an excellent first step at standardizing and improving the care provided to children. Ongoing training for the staff at the hospitals and prehospital providers will be critical to maintaining proficiency at handling children's emergencies, and the Agency is committed to regularly conducting such training opportunities.

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## Statewide Standards for Disaster Medical Response

### Grantee:

Mountain-Valley EMS Agency

**Project Number:** EMS-0052

**Project Period:** 07/01/00-06/30/01

**Project Amount:** \$100,000.00

### EMS Administrator:

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### Introduction

In cooperation with the Emergency Medical Services (EMS) Administrators Association of California, Mountain-Valley EMS Agency began a project in July 1999, funded by the California Emergency Medical Services Authority, to develop disaster medical system (DMS) standards to assist local EMS agencies (LEMSAs) in the development of local disaster medical systems. These standards will provide the basis for regulations to be developed in FY 2001-2002.

### Project Description

A multi-disciplinary Steering Committee and an Advisory Group were formed from local, regional, and state representatives, as well as many DMS stakeholder groups from throughout the state. The Steering Committee identified 18 medical and health functions during FY 99/01,

which were revised to the 17 functions listed below during the second year of the project.

1. **Development and maintenance of medical and health disaster plans, policies, and procedures for the operational area**
2. **Assessment of immediate medical needs**
3. **Management of disaster medical and health resources**
4. **Management of patient distribution and medical evacuations**
5. **Support for hospital inpatient and emergency care**
6. Support for out-of-hospital medical care
7. **Coordination of pre-hospital emergency services disease**
8. **Support for temporary field treatment sites**
9. Health surveillance and epidemiological analyses of community health status
10. Assurance of food safety

11. Management of exposure to hazardous agents
12. Provision or coordination of mental health services
13. Provision of medical and health public information and protective action recommendations
14. Provision or coordination of vector control services
15. Assurance of drinking water safety
16. Assurance of the safe management of liquid, solid, and hazardous wastes
17. Investigation and control of communicable diseases.

The Steering Committee also identified seven functions, identified in bold type above, for which local EMS agencies have primary responsibility for preparedness, response, or recovery activities. The intent of the regulations that result from this project, at a minimum, is to promote an assurance role for LEMSAs in the development of quality DMS systems. Project advisors recognized that given the variety of ways in which EMS services are organized in California, various LEMSAs will have different operational roles related to disaster medical services.

## **Outcome**

A set of DMS standards and guidelines, and an organizational oversight body to continue to promote standardization throughout the state was submitted to the EMS Authority for consideration.

## **Conclusion**

Both the Steering Committee and Advisory Group identified the need for legislation to provide a medical and health framework for implementation of these standards by local

systems. The proposed legislation will define the seventeen functions and name the Health Officer or designee as the government official having primary oversight responsibility for development and implementation of the functions.

The Project Advisory Group unanimously recommended that the California Department of Health Services undertake a similar project to assist local public and environmental health officials to establish statewide standards and guidelines. They also recommended the creation of an oversight body or bodies to maintain and update the statewide medical and health standards.

The Project has recently received a third year funding to work with local and state organizations to complete the regulations/guidelines process and to assess the feasibility for developing statewide training standards for Disaster Medical Systems personnel.

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# Stanislaus County System Design

**Grantee:**

Mountain-Valley EMS Agency

**Project Number:** EMS-0053

**Project Period:** 07/01/00-08/31/01

**Project Amount:** \$64,722.00

**EMS Administrator:**

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## Introduction

The EMS system in Stanislaus County is a product of evolution rather than any conscious system design. Even though the system functioned relatively well in meeting the EMS needs of the public, several recent studies indicated a comprehensive evaluation and redesign of the system was in order.

Stanislaus County has five primary PSAPs, two ambulance dispatch centers, five ambulance service providers and multiple fire department BLS first response agencies. For the most part, there is little realtime coordination among all of these services on a day to day basis. Consequently, recent studies have shown that the closest ALS ambulance is not always sent to 911 calls, response time standards are not being met in most response zones, and the potential for miss-communication due to the number of PSAPs can, and does result in response errors.

## Project Description

This project was designed to study the current EMS system in Stanislaus County, compare it to other systems throughout the nation and make specific recommendations for future EMS system design in the county.

## Tasks/Methodology

A consultant firm was retained to conduct the research and analysis, and make recommendations regarding EMS system improvements. A policy level task force was assigned to review the options available and make recommendations to the Stanislaus County Board of Supervisors and the Mountain-Valley EMS Agency's Board of Directors. An advisory group was established with members from all local constituency groups to provide input and technical advice to the task force.

## Outcome

On June 27, 2001, the task force met and approved their final report which includes the following recommendations:

1. Consolidate all EMS dispatch services, (with the exception of Turlock Fire Department) into the Regional 911 Dispatch Center.
2. Integrate expanded scope EMT-I, ALS first response, quick response vehicles or contracted ALS first response services in areas where such services would be medically appropriate and financially feasible.
3. Develop a cooperative, coordinated and standardized countywide model for emergency medical ambulance services in the county.

## **Conclusion**

The above recommendations have been scheduled to be heard by both the Stanislaus County Board of Supervisors and the Mountain-Valley EMS Agency Board of Directors in August and September respectively. It is anticipated that the recommendations as stated will be approved.

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## Multi-County Disaster Medical/Health Preparedness

**Grantee:**

North Coast EMS Agency

**Project Number:** EMS-0054

**Project Period:** 07/01/00-06/30/01

**Project Amount:** \$30,000.00

**EMS Administrator:**

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### Introduction

The Cascadia Region Medical/Health Preparedness Project (Cascadia Project) grew out of the recognition by county, regional, state and federal officials that the north coast region faces a threat of a large magnitude earthquake (estimate 8.4+) along the southern end of the Cascadia Subduction Zone (CSZ). The CSZ is a major thrust fault zone that lies just off the coast of Humboldt and Del Norte counties and extends to British Columbia. A large quake on the CSZ could cause significant liquefaction and ground shaking, and produce tsunamis that could reach the coast in a few minutes. These events will cause significant infrastructure damage, isolate many communities in Humboldt and Del Norte Counties, and severely stress the health care system.

### Project Description

The second year of the Cascadia Project focused on improving medical preparedness and planning for a CSZ event. The project expanded the information contained on GIS maps developed in year one of the project, enhanced the training of medical personnel in disaster health services, evaluated the utility of resource directories previously developed, and enhanced communication capabilities between the County EOC and isolated communities through testing in a county-wide drill. It also encouraged individual

and community disaster preparedness activities. County Medical Disaster Medical Annex Plans were evaluated and compared with state guidelines currently under development and a revision process was initiated.

### Tasks/Methodology

North Coast EMS, the Humboldt County Public Health Department, the Del Norte County Department of Health and Social Services, and Humboldt County OES worked as a steering committee to direct the work of the primary coordinator, the Northern California Safety Consortium (NCSC), in addressing seven primary objectives. Additional data layers were added to GIS maps. The American Red Cross (ARC) offered Disaster Health Services classes to health care professionals in two counties. A county-wide communications exercise was conducted to test a new "County to Facility" reporting form, to establish communication with isolated islands of humanity (IIH) in Humboldt County, and to establish communication links outside the operational area to state and federal agencies. NCSC worked closely with the Redwood Tsunami Work Group, the Del Norte County Disaster Preparedness Committee, and the ARC to improve disaster preparedness information and facilitate planning in Humboldt and Del Norte Counties.

## **Outcome**

GIS maps of Humboldt and Del Norte Counties updated with Census 2000 data were produced in various formats and made available on CD. A Cascadia exercise book containing a new “county to facility” reporting form was developed. Area-specific tsunami brochures containing maps were developed for the Crescent City and Samoa Peninsula areas. A format for presenting community disaster preparedness programs was developed.

## **Conclusion**

The Cascadia Project enhanced the Disaster/Health Preparedness in Humboldt and Del Norte Counties and enhanced the coordination between North Coast EMS and County OES and Health Departments. Reporting forms, resource directories and communications were tested throughout Humboldt County. Health care professionals were trained in Disaster Health Services, the Neighborhood Emergency Services Team (NEST) program was promoted, and GIS maps and tsunami hazard brochures were developed for emergency planning purposes. County Medical Annexes were reviewed and compared to proposed State guidelines, and a revision process was begun.

In order to maintain the information developed in this project, and to ensure the continuation and further development of the NEST program, and disaster/medical health planning in rural counties, a continuous and stable funding source at the State level must be secured.

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# Yellow Ribbon Teen Suicide Prevention Program

**Grantee:**

Riverside County EMS Agency

**Project Number:** EMS-0055

**Project Period:** 07/01/00-12/31/01

**Project Amount:** \$35,000.00

**EMS Administrator:**

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## Introduction

A Survivors of Suicide group to organize a Suicide Prevention Program approached the Riverside County EMS Agency. As we began to conduct research about suicide prevention programs in other parts of the country we learned about the Yellow Ribbon Suicide Prevention program. We also found that no such program existed in Riverside County. There were pockets of small groups of mothers and families of youth who had committed suicide but no formal organization.

Teenage suicide is a societal problem with tremendous implications for schools. Schools and parents have been reluctant even to recognize this problem, much less devote resources toward the development of prevention programs. Presently, most suicide intervention programs in the schools are developed in the aftermath of a crisis. Much has been said about the reluctance of school administrators to work on this problem.

In 1999, the EMS Agency received funds from the state Emergency Medical Services Authority to develop and implement a Yellow Ribbon Suicide Prevention program in Riverside County.

## Project Description

The Yellow Ribbon Suicide Prevention (YRSPP) Program is NOT a treatment program; it is not designed to diagnose the problem. The YRSPP is an outreach program that provides a link to experts who can diagnose and treat the problem.

YRSPP's main goal is prevention. The program curriculum teaches how to respond to a crisis to help prevent suicide. The program reaches out to an international audience and serves all 50 states in the United States, all provinces in Canada and 47 other countries.

The YRSPP is a program that provides a structure that enables communities to empower teens to help their peers in a time of crisis. It allows parents, teachers, counselors and others to: understand the scope of the problem, appreciate how a suicidal person feels, examine the myths and facts relating to suicide, recognize key warning signs and identify vital, life-saving links of communication.

The EMS Agency obtained this grant in the hopes of introducing this program to schools and parents in Riverside County and to ultimately collaborate with groups such as Survivors of Suicide to establish a YRSPP chapter in the county.

## Tasks/Methodology

The program goals were accomplished through several methods. The Program Coordinator contacted local schools and with local youth serving agencies. Initially, problems were encountered because a Program Coordinator was not assigned to the program until September.

Our agency was eventually contacted by the Youth Action Council from Riverside requesting our assistance with a Yellow Ribbon Suicide Prevention Program they were planning for February. The Riverside PTA had already contracted with Dale and Dar Emme, co founders of the Yellow Ribbon Suicide Prevention program to conduct presentations/assemblies to several schools in the city of Riverside. However, they needed assistance with funds to purchase 20,000 YRSPP cards for the students and with other materials. We were very happy to help since this gave us the opportunity to attend the programs and meet the Emmes'.

After attending the school programs in Riverside, our agency was contacted by the YRSPP chapter in Encinitas. Carol Skiljan, Executive Director of the program was very happy that we were involved and invited us to a speakers training in Encinitas. We learned first hand about the program and were introduced to others who have been involved in suicide prevention education programs for many years.

We informed the Emmes' and Ms. Skiljan about the grant we have received from the State EMS Authority and about our desire to establish a YRSPP chapter in Riverside County. Ms. Skiljan gave us names of individuals in Riverside County who had called her chapter requesting information.

Since our budget did not allow for us to hire speakers to conduct school presentations, we decided to have a train the trainer YRSPP speaker training in Riverside County. With the assistance of the Riverside County Office of Education we sent out flyers to anyone we could think of who worked with youth; teachers, counselors, school nurses, churches, youth groups, etc.

We contacted a Dottie Reichard, a school nurse administrator from Corona Norco Unified School district to identify a site for the workshop. She was very enthusiastic and supportive since Corona had recently experienced a teen suicide at a local high school.

Carol Skiljan agreed to conduct the speaker-training workshop. We sent out flyers, developed a workshop agenda and collected education materials for distribution.

## **Outcome**

The workshop was held on December 12, 2001. The workshop was a tremendous success with 52 participants in attendance. The evaluations revealed many individuals expressed interest in developing and participating in a suicide prevention task force/coalition and wanted more training on the subject.

## **Conclusion**

We know that there is a need in Riverside County for suicide prevention information and I think we just tipped the iceberg. Future goals are to seek additional funds to set up a local chapter, a crisis hotline and ongoing training to individuals who can get out to the community and educate!

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## Trauma System Evaluation

**Grantee:**

San Francisco County EMS Agency

**Project Number:** EMS-0063

**Project Period:** 10/01/00-09/30/01

**Project Amount:** \$59,997.00

**EMS Administrator:**

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### Introduction

An organized system of emergency transport of trauma patients to San Francisco General Hospital, and a coordinated system of care at that Trauma Center has existed since the early 20<sup>th</sup> century. This trauma system has served as a model for the study of improved methods of trauma care. At the beginning of the 21<sup>st</sup> century, San Francisco is re-evaluating its nationally recognized trauma care system and looking toward a regionalization of services with other Bay Area trauma systems.

Subject to constraints of the county Department of Public Health budget, the sole Trauma Center in San Francisco must vie for public funding dollars to maintain a high quality trauma system. New California State trauma regulations, and a catchment area recently expanded to San Mateo county, are additional factors that bring to the fore the need for the organizational and information system updates that this project supports.

### Project Description

During the two-year course of this project, four distinct aspects of the trauma system have been evaluated. These are 1) the trauma center organizational structure; 2) community hospital participation in the trauma system; 3) the need for aeromedical services in San Francisco

county; and 4) the need for a regionalized trauma quality assurance program.

The project has set out to update the Trauma Center standards to meet newly revised California Title 22 regulations and newly revised standards of the American College of Surgeons. In addition, progress continues toward enhancing the trauma registry software for the Trauma Program at San Francisco General Hospital, developing a disaster back-up plan for the trauma center, and evaluating the use of community hospitals by severely injured patients. The incorporation of a functional recovery component of the trauma registry is planned, which will capture information from community hospitals as well as the trauma center. Additionally, the project implemented a needs assessment and feasibility study for aeromedical services in San Francisco. Finally, the project supports the development of a regional Trauma Quality Assurance Program with San Francisco and neighboring county trauma systems.

### Tasks/Methodology

Using an ad hoc committee structure, staff from the Trauma Center and the local EMS Agency have drafted budget initiatives and policy changes, and performed needs evaluations for this project. Consultants have been hired to reprogram the trauma registry and assist with the aeromedical operations feasibility study.

In the second year, the Trauma Care System Plan was revised and updated.

## **Outcome**

The Trauma Care System Plan revision was approved by the local Health Commission and the State EMS Authority after an intensive public review process. This revision now guides policy and planning for the trauma system, including the formation of trauma audit committees that will provide better oversight through an improved data collection and quality review process. The new Trauma Registry platform for the Trauma Center will enhance accuracy and flexibility of trauma system data collection. A position paper from the Mobile Air Access Project will guide policy decisions for aeromedical transportation for trauma patients. Outreach to community hospitals and neighboring trauma systems will provide outcome data on repatriation of trauma patients, functional recovery, and comparison of performance data for three adjacent trauma systems.

## **Conclusion**

This project has, and will have significant impact on the trauma system in San Francisco, further improving the standard of care for injured persons locally, and in neighboring trauma systems. The project paves the way for more detailed, objective evaluation of the trauma system, that will inform the public and policy makers about decisions in healthcare dollar allocations for the prevention and treatment of injuries in San Francisco and the broader Bay Area region.

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## High School CPR Education

**Grantee:**

San Mateo County EMS Agency

**Project Number:** EMS-0056

**Project Period:** 07/01/00-06/30/01

**Project Amount:** \$41,448.00

**EMS Administrator:**

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(650) 573-2564

### Introduction

According to the American Health Association cardio-pulmonary resuscitation (CPR) does save lives of victims of cardiac and respiratory arrest. However, despite multiple studies that support the effectiveness of basic life support (BLS) CPR, most victims of cardiac arrest do not receive the benefit of early intervention and will not survive. CPR is shown to be most effective when started immediately after a victim's collapse.

San Mateo County high school students, like their peers throughout the country, are often found participating in high-risk social and health behaviors. At some time during their teen years, high school students may be faced with situations that require them to respond to the unexpected such as the collapse of a fellow student/teacher or the choking young child in their care. Additionally, teens often tend to "congregate" at public venues such as shopping malls, movie theaters, fast-food restaurants and sporting events. Persons of various ages and cardiac risk factors also frequent these venues and may at sometime require the skill of a citizen trained in CPR.

### Project Description

The High School CPR Educational Program proposal was written as a two-year

grant. The Project's main goal was to train 90% of Sequoia Union High School District 9<sup>th</sup> graders in CPR and to pilot a CPR program at one high school within the Jefferson Union High School District. The permanent establishment of a CPR Education Program within the Sequoia Union High School District and expanding the program to the two other high school districts in the county is the long-term objective of this project. During a two-year period of time, it is estimated that approximately 4,000 students will have the opportunity to be trained in CPR. This timeframe was proposed to allow sufficient time to seek permanent funding for this project within the two high school districts. In order to achieve this goal, the committed support of all project collaborators and obtainment of permanent program funding will be necessary.

### Tasks/Methodology

- **Objective One:** To determine the benchmark for citizen initiated CPR within San Mateo County.
- **Objective Two:** To establish cooperative agreements with American Medical Response, Catholic Health Care West - Sequoia Hospital, Joint Powers Authority and Sequoia Union High School District.
- **Objective Three:** To establish a pool of San Mateo County paramedic American Heart Association CPR instructors.

- **Objective Four:** To obtain necessary equipment and supplies.
- **Objective Five:** To integrate the model high school CPR education and training program into the 9<sup>th</sup> Grade Advance Integrated Science curriculum at four Sequoia Union High School District sites.
- **Objective Six:** To establish appropriate partnerships to plan for the piloting of a CPR program at one site in the Jefferson Union High School District for 2001-02 academic year.

## Outcome

Three out of the four proposed high schools participated in the High School CPR Program. Students were required to attend 2.5 hours of instruction in order to be eligible for AHA *Heartsaver* CPR certification. During the course of the Project, 1150 students participated in the program and 1052 (86%) completed the course and received *Heartsaver* CPR certification. Course evaluations were collected from only 514 students; however of those that completed the evaluation 94% indicated that they felt prepared to perform the learned skills if called upon to do so. A slightly higher percentage (98%) of students completing the evaluation indicated that they felt that the course was of value.

## Conclusion

San Mateo County high school freshmen demonstrated an interest and capabilities to learn the skills of cardio-pulmonary resuscitation. The long-term effects of this program remain to be seen; in the meantime San Mateo County has over 1000 citizens newly trained and certified in CPR.

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## Develop EMS Data Reports & Data Analysis Methods

**Grantee:**

San Mateo County EMS Agency

**Project Number:** EMS-0064

**Project Period:** 10/01/00-03/31/02

**Project Amount:** \$58,552.00

**EMS Administrator:**

Barbara Pletz

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### Introduction

Changes to pre-hospital practices persist to be based on personal preferences and anecdotal or experiential observations rather than credible and defensible statistical evaluation. Part of this problem stems from multiple-agency involvement in pre-hospital care. For example, during a 911 telephone call, often a law enforcement officer, firefighter, ambulance provider, and/or hospital care provider may be involved in the response. Consequently, multiple reports are filed within each agency where they remain in archives, unlinked and seldom compared. Technologies available in this new millennium provide opportunities to collect, combine, and evaluate this information into meaningful and appropriate EMS policies. In addition, combining this information and making it immediately available to the medical responder and provider will assist them in providing better care to patients.

The San Mateo County EMS data system offers a unique opportunity to integrate the patient records of each of these components into a single electronic patient record. These components include:

- 9-1-1 call receipt, pre-arrival instruction, and dispatch of paramedic first responder and emergency ambulance.
- Fire service paramedic first responder.

- Emergency ambulance paramedic.
- Air ambulance flight nurse.
- Hospital emergency department-disposition and working diagnosis at discharge.

We believe that in order to begin developing and using EMS system data for quality improvement and policy direction, there should be stronger evidence.

### Project Description

Data will be collected from a countywide EMS database that integrates the patient's computerized prehospital record to include emergency medical dispatch, paramedic first response, and paramedic transport. The project will provide an epidemiologist to educate the EMS agency staff and a system-wide "User Group" in epidemiological principles. The User Group will identify indicators and benchmarks to measure and use to make clinical and operational improvements to the EMS system. The epidemiologist will assist the User Group in designing data sampling strategies and in analyzing the data.

### Tasks/Methodology

**Objective 1:** Establish User Groups

**Objective 2:** The Epidemiologist will educate

the EMS Agency staff, the User Group, and the existing Quality Leadership Council (all project participants) in basic techniques for obtaining and interpreting reliable, valid, and useful data.

**Objective 3:** Review any existing benchmarks/indicators developed by the EMSA Vision Work Group D and other previously funded California EMS data related projects. Selection of benchmarks/indicators identified.

**Objective 4:** Research methods and data points to be utilized for benchmarks/indicators identified. Benchmark/indicator data collection, interpretation, and analysis for validity complete.

**Objective 5:** LEMSA system research components identified. Data collection, interpretation, and analysis for validity complete.

**Objective 6:** Strategies for rapid cycle quality improvement designed and implemented. The same processes will be measured at periodic intervals to determine system improvements.

**Objective 7:** Assess research for validity regarding emergency medical services.

**Objective 8:** Develop tools and methods for utilizing a data system to improve clinical patient care and EMS system operations.

## **Outcome**

At the conclusion of the project a final report including educational materials and summary of data collection and analysis methods will be made available to all California EMS Agencies.

## **Conclusion**

This project is still in progress, although it continues without the support of grant funding. The majority of the epidemiological work was completed, including the educational component. While much was accomplished on this project, many obstacles arose causing significant delays in productivity. After many painstaking hours of addressing problems associated with the use of the personal digital assistant platform, the decision was made to move to a new platform. This was a significant and pivotal decision as it re-directed this project and the data system work process. However, the new platform, one that is more user-friendly, has wireless capabilities and many other advantages that the other platform did not offer, has proven to be the best choice.

The San Mateo County EMS Agency will continue working to achieve the original intent of this grant project and invites anyone who is interested to keep in touch with our agency as the system develops.

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## Emergency & Disaster Planning for the Vulnerable Population

**Grantee:**

Santa Barbara County EMS Agency

**Project Number:** EMS-0057

**Project Period:** 10/01/00-11/30/01

**Project Amount:** \$60,597.00

**EMS Administrator:**

Nancy LaPolla

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(805) 681-5274

### Introduction

Santa Barbara County needs an organized response system to meet the special needs of vulnerable populations who are unable to act independently and safely during an emergency or disaster. This report represents work completed in the second year of a two year project to develop an organized system to meet the special needs of vulnerable populations.

### Project Description

The purpose of this grant is to write a specific plan for disaster response for vulnerable populations who include but are not limited to:

- People with short term illnesses or chronic disabilities.
- Frail seniors and other adults and children with disabling acute or chronic illnesses/conditions.
- People with disabling chronic or acute mental illness.
- The County of Santa Barbara Emergency Medical Services Agency completed a written plan to meet the care and shelter needs of the vulnerable populations in an emergency or a disaster. The disaster plan will be accessible to community based organizations, facilities and to Emergency and Disaster Agencies and will serve as

a basis for educating the community about the many and complex activities that need to be planned and practiced in order to be prepared for a disaster. We envision improved ability of individuals, caregivers and facilities to provide a quick response to the vulnerable populations that they serve if an emergency or a disaster occurs in Santa Barbara County.

### Tasks/Methodology

The Specific objectives are:

**Objective #1:** To complete all contractual obligations with the State of California EMSA.

**Objective #2:** To continue the investigation of all Vulnerable Populations that will not be able to act safely and independently during an earthquake or other disaster/emergency in Santa Barbara County.

**Objective #3:** To develop a plan that includes the following:

To provide assistance to vulnerable populations that will not be able to act independently and safely during an earthquake or other disaster/emergency which includes:

- How to find those who need assistance

by use of a mapping system that includes the vulnerable populations served by HHA's, B&Cs, SNFs, Hospitals.

- How to transport persons to appropriate shelters.
- How to evacuate homebound, medically fragile to appropriate shelters.
- Who will provide the services?
- Level of service needed.
- To provide transportation of medically fragile from shelters to appropriate facilities or providing medical assistance at the shelter sites.
- To revise the Santa Barbara County Multi-hazard Functional Plan, annex D & E, so that the vulnerable populations defined by the Task Force are included in the Plan.
- To make recommendations for changes/revisions to the Santa Barbara County Public Health Department Disaster Policy, including vulnerable populations.
- To modify existing shelters or to create new shelters to meet the needs of the Vulnerable Populations during an emergency or a disaster including:
  - Locations of shelters and alternative facilities.
  - How to staff shelters and alternative facilities.
  - How to re-supply shelters and alternative facilities.
  - Identify the triage system used in shelters and alternative facilities.
  - How to return people to their homes after the disaster.

**Objective #4:** To facilitate development of MOUs or agreements relating to transportation and sheltering of vulnerable populations among like facilities housing the Vulnerable Populations

(B&Cs, SNF's Hospitals, daycare centers, congregate housing) which includes the following:

- Who, what, why, when & how.
- Location, staffing, equipment & resupply of the shelters.
- To execute at least 2 agreements relating to transportation & sheltering of vulnerable populations.

**Objective #5:** To facilitate development of MOUs or agreements relating to designating an area in general shelters for the provision of medical care by medical personnel.

**Objective #6:** To provide educational opportunities to residents and providers in Santa Barbara County that includes the following:

- To develop a plan to educate agencies required having disaster response plans regarding the importance of updating and orienting employees.
- To develop and test a pilot program of agency education module.
- To develop a plan to conduct community outreach and education that prepares the Vulnerable Populations to be as self sufficient as possible during an emergency or a Disaster.

### Outcome

- S The Plan is written.
- S GIS maps identify vulnerable populations in residential care, skilled nursing and acute care facilities. Individuals living in their own homes are identified more generally through census data on the GIS maps.
- S MOUs are in process and will be completed during the third year (implementation year).

- S An additional year of funding has been secured to begin implementation of the Plan.
- S Staff has been hired for the third year implementation.
- S Community education and outreach has begun; contracts are in place to continue community education and outreach.
- S There has been discussion regarding a special needs shelter, but none has been secured to date.
- S The Public Health Department Disaster Plan has been revised and includes the Disaster Plan for Vulnerable Populations as an annex.

## **Conclusion**

The objectives were to be accomplished by the Task Force and its subcommittees, beginning in November, 2000.

The grant implementation was overwhelming, barriers were difficult to overcome.

The Project Coordinator asked for and received a 2 month extension of the second year of the project, through November, 2001.

Most of the second year objectives have been met. The rest have been scheduled for completion during the third year.

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## Violence Prevention Education for EMS Providers

**Grantee:**

Sierra-Sacramento Valley EMS Agency

**Project Number:** EMS-0058

**Project Period:** 07/01/00-12/31/01

**Project Amount:** \$69,779.00

**EMS Administrator:**

Leonard R. Inch

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(916) 625-1701

### Introduction

Violence is a serious health problem in our society, as evidenced by the increasing number of Domestic Violence Coalitions whose missions are to decrease domestic violence. This project was intended to develop violence prevention training for S-SV EMS Agency's five county region.

### Project Description

The Sierra-Sacramento Valley EMS Agency had proposed to develop violence-training workshops for prehospital and fire personnel. There has been insufficient interface between the resource groups. A training guide was developed, workshops scheduled, Safe Havens identified and direct access lines from Safe Havens to dispatch centers installed.

### Tasks/Methodology

Sierra-Sacramento Valley EMS Agency (S-SV) contracted with Dr. Victor LaCerva from the New Mexico State Department of Health to aid in conducting informational seminars. Dr. LaCerva also helped determine the subject matter for the presentations.

Another phase in the project was to identify safe haven locations in our five county region. Contact was made with each Emergency

Medical Control Committee and funds were set aside to fund telecommunications for identified safe havens. Safe havens were established in Yolo and Nevada counties.

### Outcome

The primary difficulty encountered during this project was generating interest and securing attendance for the educational sessions. On an average there were less than 40 participants at each injury prevention workshop. A great deal of time was devoted to advertising the workshops including mailing and faxing notices to every agency in our five county region as well as sending notices to counties outside of our region.

### Conclusion

With the exception of canceling two of the proposed workshops due to lack of attendance, the project objectives were met within the time frames identified in the grant and two safe havens were established in West Sacramento, North San Juan and Penn Valley.

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## Statewide EMS Evaluation and Planning

**Grantee:**

Sierra-Sacramento Valley EMS Agency

**Project Number:** EMS-0066

**Project Period:** 10/01/00-09/30/01

**Project Amount:** \$309,828.00

**EMS Administrator:**

Leonard R. Inch

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### Introduction

This project was intended to develop a statewide EMS System Plan. This will be achieved through implementation of the NHTSA recommendations, and the "Future of EMS in California" document. Six committees were formed to address the sixty-six Vision recommendations and the ninety NHTSA recommendations.

### Project Description

This is the second year of a three-year project that will create the statewide EMS System plan. This plan will be based on NHTSA's recommendations, the "Future of EMS in California" Vision document recommendations, and a systematic annual review process that will be used to assess the effectiveness of local EMS systems and agencies. The second year of this grant has focused on developing action plans and strategies for implementation. The six committees have also received sections of the EMS System Standards and Guidelines for review.

### Tasks/Methodology

S-SV contracted with a consultant to provide project management for the grant. In addition, two students were hired through the CSUS Foundation for administrative support.

Six groups were formed to address the recommendations: Funding, Governance, Data, Education and Personnel, Prevention and Access. A project oversight team was also formed. The committees and the project oversight team met quarterly, and held conference calls as needed. The Vision document objectives were finalized, and each of the committees has formed draft implementation plans for achieving the Vision process and NHTSA recommendations. Work has begun on implementing the Vision objectives, and is continuing.

Objectives for this project were accomplished through a cooperative effort of the consultants, S-SV staff, and the project oversight team. The quarterly meetings that took place with the committees and project oversight team, and conference calls facilitated the completion of the objectives for the second year of the project.

### Outcome/Conclusion

At the conclusion of the second year, the committees have been focusing on implementation strategies for the Vision objectives. The Vision Conference was completed successfully, with 150 EMS constituents, in December of 2000. A conference summary document, "Making Vision a Reality", was completed and sent to a printer. The document included action plans for each

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committee, status of original Vision objectives, and the components of the EMS System Standards and Guidelines for each committee to review.

## **Trauma Assessment and Planning**

### **Grantee:**

Ventura County EMS Agency

**Project Number:** EMS-0067

**Project Period:** 10/01/00-05/31/02

**Project Amount:** \$29,298.00

### **EMS Administrator:**

Barry Fisher

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Ventura, CA 93003

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### **Introduction**

A two year study was initiated in October of 2000 that was intended to produce a comprehensive needs assessment during the first year, and a plan for seriously injured patients consistent with State requirements in year two. The project intended to identify all available resources needed for the management of the injured patient and provide a framework to maximize the organization and use of these resources to assure optimal outcomes for injured patients.

### **Project Description**

This report was based on results of a two-year study that is intended to produce a comprehensive needs assessment (year one) and a plan (year two) for seriously injured (patients) consistent with state requirements. This project was intended to identify all available resources needed for the management of the injured patient and provide a framework to maximize the organization and use of resources to assure optimal outcomes for injured patients. A stakeholder input and communication process

was initiated in Ventura County during year one and was suppose to be completed during year two.

The communication process was anticipated to assure all needs and unique injury capabilities are identified throughout the entire process. This report focused on the results of the inventory process that occurred during year one. During this assessment phase, all hospital and prehospital providers were surveyed; resources for injury care identified, strengths inventoried and gaps in coverage documented. Interviews were conducted of all stakeholders (hospital, prehospital, public safety, public health) and data collected on population, prehospital and hospital incidents of injury to better understand the demand for injury care and its impact on the county and its residents. Following this inventory, the system's capabilities to manage injuries in a coordinated and consistent fashion were compared to other system standards established by state and national groups.

Key conclusions drawn during this assessment phase were as follows: Injury is a serious and pervasive problem in Venture County

accounting for greater than 290 deaths and 4,200 hospitalized injuries per year. There is general agreement by Ventura County system EMS stakeholders that serious injured patients warrant a coordinated and seamless approach to care irrespective of their location within the county. System stakeholders and this assessment process confirmed that such a coordinated systems approach does not exist countywide. In general, it was agreed that an organized, systematic approach to the management of trauma within the EMS system is necessary to assure the maximum reduction in morbidity and mortality for injured patients.

### **Tasks/Methodology**

The year-one assessment process was initiated as an interim step with the recognition that traditional trauma planning often fails. The initial effort was focused on obtaining the appropriate public and provider input and review, and defining the historical concerns of system stakeholders to a trauma system. It was anticipated that during year two, a trauma plan addressing the needs in the report would be needed.

### **Outcome/Conclusion**

At this time there is not consensus that the existing system of emergency medical services requires a change. The majority of participants believe that there is insufficient information to demonstrate that a formal trauma plan will improve patient outcomes in Ventura County. Further, there is significant concern that the designation of trauma centers may exacerbate the economic challenges of our health care system.

There is agreement that additional

outcome-based data would be valuable to further the assessment and planning process. At this time we do not have a countywide trauma registry, and therefore are limited in the scope and depth of analysis we can bring to the discussion. There is a willingness to participate in a trauma registry process and to use the data to revisit this discussion.

We propose to use the remaining funds to purchase, install, and manage a trauma registry for a minimum of two years. At the conclusion of year one we will reconvene the trauma system assessment and planning committee to reconsider the need and necessity of a trauma plan.